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ABSTRACT

Continuing educators can gain knowledge about their programs' environments, as well as predict the outcomes of change processes, by utilizing an emerging systems concept called the communication model. Utilization of the communication model involves three steps: (1) diagramming the perceived reality of the organizational system, (2) using the diagram to guide data collection and analysis, and (3) constructing a functional theory to facilitate problem solving. The first step of diagramming a system can be facilitated by referring to the Walter L. Balk systems model. This model involves the following components: organizational evolution, organizational exchange, and internal components. Once a model representing the perceived reality of the organization under study has been designed, attempts can be made to secure data based on thematic content. In most cases, a comparative analysis is conducted of the changes which occurred in the organization's components. The third step reflects ways in which the nature of the data alter the theory to more accurately represent the situation under study. (CSS)

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THE COMMUNICATION MODEL: AN EMERGING SYSTEMS ANALYSIS TECHNIQUE FOR CONTINUING EDUCATION RESEARCH

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Introduction

Schools of Continuing Education are faced today with an unprecedented challenge: while the needs and characteristics of the communities we serve are changing at ever-increasing rates, our institutions are often becoming less able to adapt to alterations in our environments. In many parts of the country, educational programs which flourished only a year or two ago are languishing today.

One reason why continuing educators experience difficulty in meeting the challenges of rapid change and its resulting problems is that we are often unable to adequately analyze the needs of our potential markets, as well as to identify and comprehend the myriad environmental forces which are being exerted on our programs, such as the economy, faculty unionism, changes in technology, and other inescapable phenomena. Rather than utilizing sophisticated research tools to study and analyze these environmental influences, too many of us take "common sense approaches" to solving these types of problems. Katz and Kahn (1966) described this shortcoming as follows:

> . . .Common sense approaches to understanding and altering organizations are ancient and perpetual. They tend, on the whole, to rely heavily on two assumptions: that the location and nature of an organization are given by its name; and that an organization is possessed of built-in goals--because such goals were implanted by its founders, decreed by its present leaders, or because they emerged mysteriously as the purposes of the organizational system

> itself. These assumptions scarcely provide an adequate basis for the study of organizations and at times can be misleading and even fallatious. . .

In an attempt to take a rational, rather than a "common sense" approach to solving problems and predicting environmental changes, many universities have employed various systems analysis techniques for more than a decade. P.P.B., M.I.S. and occasionally P.E.R.T. systems have been utilized to facilitate budgeting, long-range planning, and program evaluation. But even with the advent of these tools, too many of us are ignorant of the nature of the various environmental forces which are impacting our programs.

One way continuing educators can gain knowledge about their programs' environments, as well as predict the outcomes of change processes, is to utilize an emerging member of the systems family termed the communication model. In the following paper the application of communication models to the solution of problems occurring within Schools of Continuing Education will be discussed.

The Communication Model - - An Emerging Member of the Systems Family

The Communication Model, according to Churchman, et al. (1957) is a "diagram enabling one to bring together, from various fields of research, knowledge about organizations". These models have been increasingly used during the past 15 years in business and industrial settings to analyze a wide range of organizational problems. "Basically, they are flow diagrams showing how information is transmitted, processed, and changed. While these models lead to mathematical manipulations of the Operations Research type, they are not used for accurate predictions and calculations. Their

purpose, rather, is to (a) define a communication (or information and influence transfer) network, (b) gain knowledge of control processes, and (c) predict outcomes of a change process..." (Balk, 1971)

Communication models have wide application in the field of continuing education. Utilizing a communication model, the program administrator can perceive and diagram the major components of his/her organizational system. This communication diagram can then be used as a guide with which to collect and analyze data relating to these various system components and the changes which were effected in them during a given time period. Once the relevant data have been collected, the model can be utilized as a framework with which to construct a "functional theory" relating to one's continuing education program. While such a "functional theory" can not be viewed as a panacea for various organizational problems (e.g., changing market characteristics, budgetary shortfalls, etc.), it can suggest various analytical and policy approaches to attacking these problems.

The utilization of a communication model, then, involves the following three steps:

1. Diagramming the perceived reality of the organizational system under study
2. Using the diagram as a guide for data collection and analysis
3. Constructing a "functional theory" to facilitate problem solving.

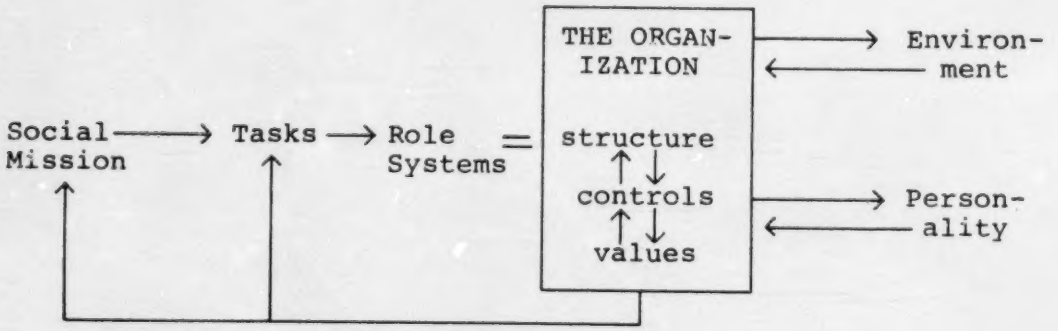
Each of the steps will be further described below.

Diagramming the Perceived Reality of the Organizational System

The initial step in the development of a communication model is to diagram the perceived reality of the organizational system under study. The construction of such a diagram can be facilitated by referring to a systems model devised by Balk which illustrates the interrelationships among the components of organizational systems; how role systems (of which organizational systems are comprised) are formed; and how system changes can be accounted for. The Balk model is shown in the following schema:

Figure 1

THE BALK MODEL OF AN ORGANIZATIONAL SYSTEM



A brief description of the various components of this model follows:

1. Organizational evolution - - The first step in the evolution of an organization such as a university is the determination of its social mission. The organizational social mission is composed of four elements: organizational goals (specified aims, priorities of feeling, what the system "wants" to do), size, complexity, and available resources. The nature of the system's

social mission calls for a series of rational tasks with which the organization's social mission is to be accomplished. In order to perform these tasks, social roles are created (positions involving exchanges of goods and materials which outlive the lives of their incumbents - - see Turner and Lawrence, 1965). Networks of these roles, termed role systems, make up or "equal" the organization (see Katz and Kahn, 1966).

2. Organizational exchange - - Any social organization is dependent upon its environment (other institutions, cultural environment, society, constituencies, etc.). In addition, the organization is very much influenced by the personalities (or behavior) of its members. In other words, the organization is an "open system" which steadily exchanges information and materials with its environment; these exchanges are affected by the personalities of the organizational personnel.

3. Internal components - - In addition to the above external forces, the organization is influenced by three interacting categories of phenomena from within the organization itself. These phenomena are the following:

a. Organizational structure. - - The organizational action channels, such as the organizational chart, job descriptions, legitimate reward systems, informal groups.
b. Organizational controls. - - The organizational action evaluators, such as rules, performance ratings, budgets, productivity criteria, plans, standards, etc.
c. Organizational values. - - The organizational justifiers such as social values, priorities, missions, and broad social purpose.

Each of these internal system components has a symbiotic relationship with the other components of the organization. In addition, the organization's value component, particularly the priorities and missions elements, has a direct influence upon and is influenced by

the organizational social mission which, in turn, maintains a systems change dialectic.

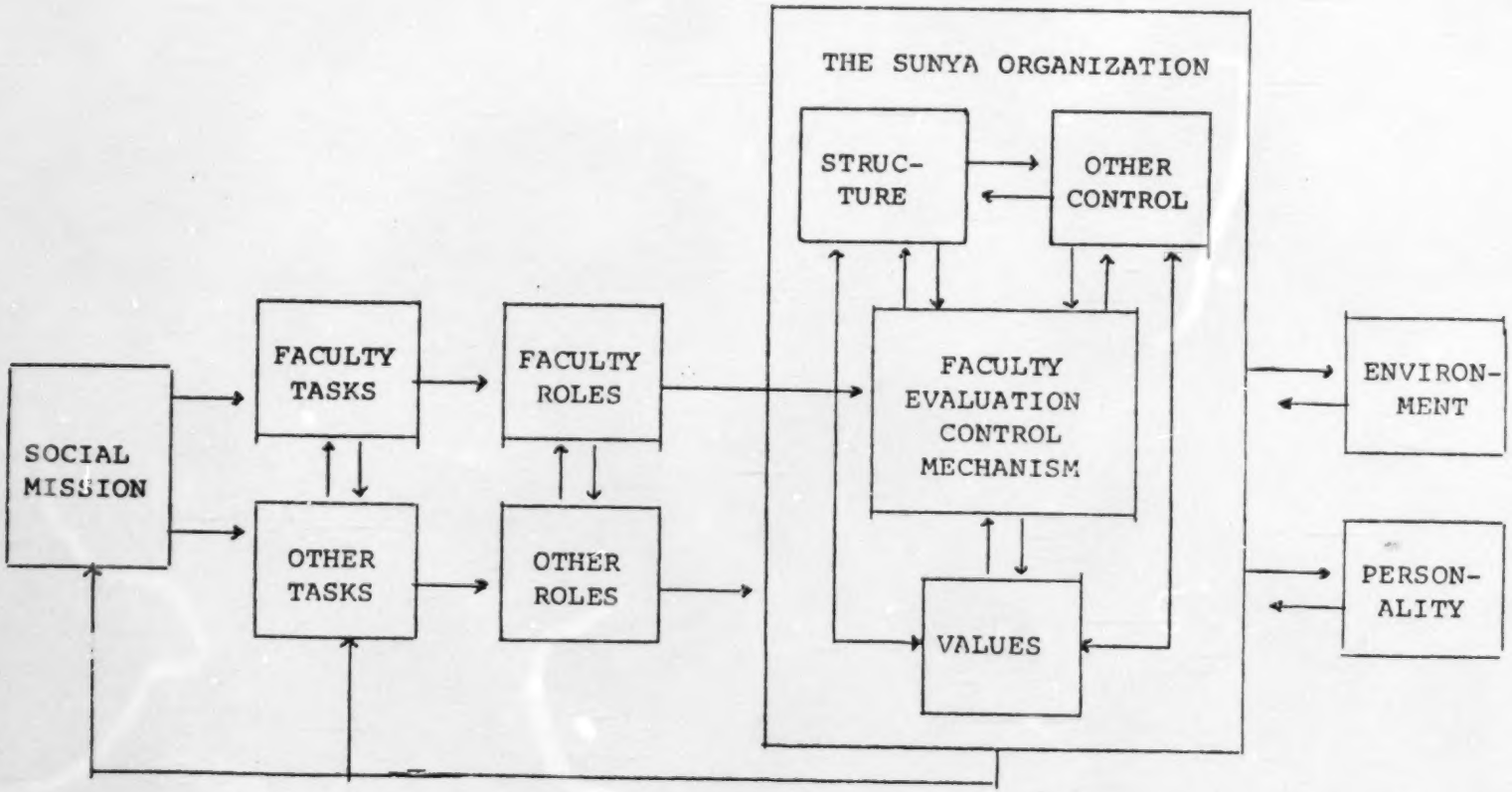
Broadly stated, then, it is Balk's hypothesis that any major change occurring in the components of an organizational system (social mission, tasks, roles, structure, controls, values, environment, or personality) effects a change in every other component of the organization until the entire system is in "balance." This is often an unseen side-effect of organizational change.

Utilizing the Balk Model, one can diagram the perceived reality of a continuing education system with relative ease, as the following example illustrates. While a graduate student at the State University of New York at Albany, the author conducted research relating to the evaluation of the SUNY/Albany evening faculty. To facilitate the collection and analysis of relevant data, a communication model was constructed by selecting all of the components of the Balk Model which could ultimately influence the evaluation of evening faculty and combining them into a new model. This model, presented in Figure 2, represented the writer's perception of the forces which affected or influenced the evening faculty evaluation process during the period from 1967 through 1972. Hypothetically, these forces were generated by the various major changes which occurred in one or more components of the SUNY/Albany's environment during that time period. Following is a brief description of this model:

At the State University of New York at Albany, the university's social mission called for a series of rational

FIGURE 2

"COMMUNICATION MODEL OF THE SUNYA FACULTY EVALUATION CONTROL ENVIRONMENT," DERIVED FROM THE BALK MODEL OF AN ORGANIZATIONAL SYSTEM



tasks with which its goals and objectives were to be accomplished. A portion of these tasks were considered to be related to the evening faculty; classroom teaching, advising, faculty service and relations, management (administration), performing and visual arts (activities related to fine arts faculties), professional services, publications, public service, and research. Combinations of some or all of these faculty activities were said to comprise a system of faculty roles.

Within the institution, the"Faculty Evaluation Control Mechanism" provided for the assessment of faculty performance and the evaluation of teaching effectiveness. The logic of Figure 2 is that the "Faculty Evaluation Control Mechanism" and the other components of the system (structure, other controls, and values) were interdependent. In addition, this control mechanism could ultimately be influenced by the institution's environment, social mission, faculty and non-faculty tasks, the formal faculty and non-faculty role structure, and different personalities in faculty and non-faculty roles (such as different department chairmen, deans, President, and Academic Vice President). It was therefore hypothesized by the writer that a major change occurring in any of the components of the "Faculty Evaluation Control Environment" would impact all of the other components of this "subsystem".

Utilizing the Model for
Data Collection and Analysis

Once a model representing the perceived reality of the organization under study has been designed, it can be utilized as a guideline with which to facilitate data collection and analysis. In this step, the program administrator first gathers all available data relating to the various components of the diagram he/she has designed. In the SUNY/Albany diagram described earlier, for example, the author gathered the most recent available data relating to faculty evaluation procedures, rank and tenure status, promotion and tenure criteria, productivity measures, and other types of information utilized in the evening faculty evaluation process. In addition, a variety of information was collected relating to the other components of the "Evening Faculty Control Environment" (e.g., organizational structure, controls, values, etc.)

Due to the exporatory nature of this type of research, an attempt should be made to secure thematic content rather than specific quantitative type data. The collection of these kinds of data therefore point out some of the trends which have occurred in the organizational system under study.

Once all relevant data have been collected, they are analyzed using the communication model as a guide. In most cases, a comparative analysis is conducted of the changes which occurred in all the components of the organization being studied. For example, in the SUNY/Albany research, the author compared the most recent

available data relating to the evening faculty evaluation process with similar data compiled during the preceding five academic years. A second comparison was made of the changes which occurred in the other components of the SUNY/Albany system by comparing the most recent available data relating the the SUNY/Albany environment, social mission, tasks, roles, structure, values, other controls, and personnel personality with similar data compiled during the preceding five years.

These types of comparisons provide a continuing education program with a variety of useful trend data with which to predict and respond to environmental changes. In effect, this type of analysis secures empirical evidence in order to evaluate an organization's communications systems and its impact on such processes as faculty evaluation, long-range planning, nontraditional support services, etc.

Constructing a "Functional Theory" to Facilitate Problem Solving

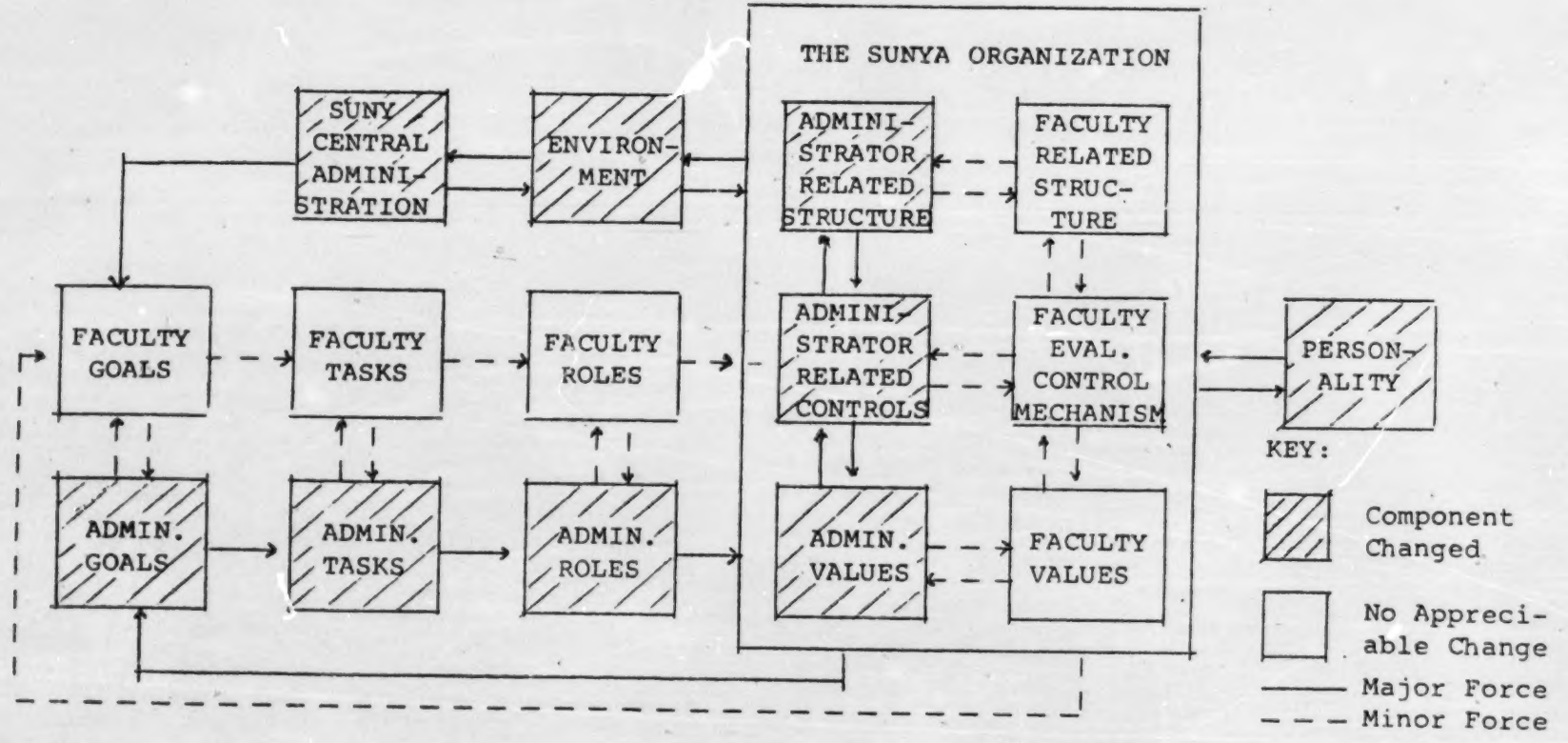
Once a communication model has been utilized to collect and analyze relevant data, one normally discovers one or more inconsistencies between the model and the research findings. Such a basic incongruity is to be expected since a communication model is a construct, rather than a completely accurate description of the actual forces which are acting upon an organizational system. According to Marx (1963), the construction of a "functional theory", a series of "more or less explanatory propositions which are closely related to the data (empirical propositions) and without fixed

logical form," involves a two-way flow of influence between the conceptual and the empirical levels. In other words a conceptual theory is developed as a tool with which to collect data; the nature of the data suggest ways in which the theory can be altered to more accurately represent the situation under study.

In the SUNY/Albany research, for example, a conceptual analog was developed as a guideline for the collection and analysis of empirical data relating to the evening faculty evaluation process. After these empirical data were analyzed and the study findings examined, the communication model was modified in order to make it more consistent with these findings. The revised communication model, presented in Figure 3, more accurately describes the nature of the forces which were acting upon the SUNY/Albany faculty evaluation process at the end of the Fall, 1972 semester. Figure 3 indicates that the SUNY/Albany faculty and administration did not share the same goals, values, and perceptions of the institution's changing environment. It also indicates that the "Faculty Evaluation Control Environment" consisted of not one, but two separate subsystems--an administrative subsystem (in which information was exchanged easily and change occurred relatively rapidly), and a faculty, or departmental subsystem (in which change occurred at a relatively slow rate).

FIGURE 3

A COMMUNICATION MODEL OF THE
SUNYA FACULTY EVALUATION
PROCESS



Conclusion

Continuing educators today are faced with an unprecedented challenge--adapting to the rapid changes which are occurring in the needs and characteristics of their various constituencies. In order to successfully meet this challenge, Schools of Continuing Education, like business and industrial organizations, need to utilize sophisticated research tools with which they can adequately alalyze the needs of their potential markets, as well as identify the myriad environmental forces which will affect their programming efforts. The communication model, an emerging member of the systems family, is one such tool.

The communication model permits continuing education administrators to gain knowledge about their programs' environments, as well as to predict the outcomes of change processes. They allow one to identify potential problems in all major components of a continuing education program--goals, tasks, roles, structure, control, values, incumbent personalities, and environmental phenomena--and to develop strategies for solving these problems before they occur. Communication models enable the administrator to identify the major potential forces which are likely to come to bear on his/her program (e.g., changes which are about to occur in technology, licensing regulations for a professional group, program staff members, funding levels, etc.) and to design new delivery systems which are compatible with these new environmental characteristics.

Communication models have been utilized by the author to facilitate a variety of continuing education activities:

- The development of credit and noncredit programs for nontraditional audiences
- The design of support services for these programs
- Long-range planning
- Program evaluation
- Task analysis
- Training and professional development

By first diagramming the perceived reality of an organizational system and then utilizing this diagram as a guideline for collecting and analyzing relevant data, a variety of difficult continuing education program problems can be sucessfully attacked that would otherwise be virtually insoluable.

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